

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_PCHR PAD**

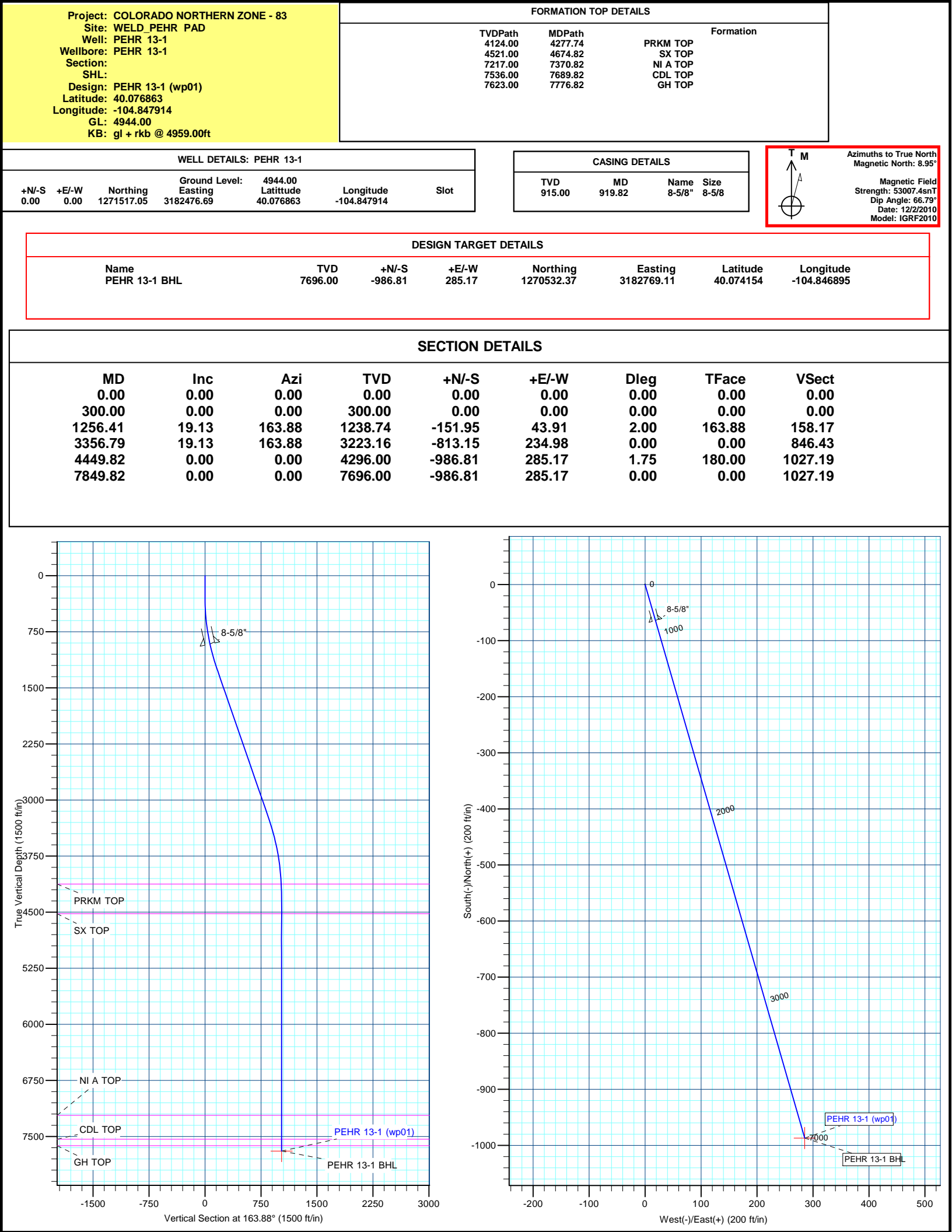
**PEHR 13-1**

**PEHR 13-1**

**Plan: PEHR 13-1 (wp01)**

## **Standard Planning Report**

**09 November, 2011**



# Anadarko Petroleum Corp

## Planning Report

<b>Database:</b>	edmp	<b>Local Co-ordinate Reference:</b>	Well PEHR 13-1
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4959.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4959.00ft
<b>Site:</b>	WELD_PEHR PAD	<b>North Reference:</b>	True
<b>Well:</b>	PEHR 13-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PEHR 13-1		
<b>Design:</b>	PEHR 13-1 (wp01)		

<b>Project</b>	COLORADO NORTHERN ZONE - 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_PEHR PAD			
Site Position:		Northing:	1,271,518.67 usft	Latitude:	40.076867
From:	Lat/Long	Easting:	3,182,496.55 usft	Longitude:	-104.847843
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.42 °

Well	PEHR 13-1					
Well Position	+N/-S	-1.47 ft	Northing:	1,271,517.05 usft	Latitude:	40.076863
	+E/-W	-19.87 ft	Easting:	3,182,476.69 usft	Longitude:	-104.847914
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,944.00 ft

<b>Wellbore</b>	PEHR 13-1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/2/2010	8.95	66.79	53,007

<b>Design</b>	PEHR 13-1 (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	73.99	0.00	0.00	163.88

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,256.41	19.13	163.88	1,238.74	-151.95	43.91	2.00	2.00	0.00	163.88	
3,356.79	19.13	163.88	3,223.16	-813.15	234.98	0.00	0.00	0.00	0.00	
4,449.82	0.00	0.00	4,296.00	-986.81	285.17	1.75	-1.75	0.00	180.00	
7,849.82	0.00	0.00	7,696.00	-986.81	285.17	0.00	0.00	0.00	0.00	PEHR 13-1 BHL

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4959.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4959.00ft
<b>Site:</b>	WELD_PEHR PAD	<b>North Reference:</b>	True
<b>Well:</b>	PEHR 13-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PEHR 13-1		
<b>Design:</b>	PEHR 13-1 (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	163.88	399.98	-1.68	0.48	1.75	2.00	2.00	0.00
500.00	4.00	163.88	499.84	-6.70	1.94	6.98	2.00	2.00	0.00
600.00	6.00	163.88	599.45	-15.08	4.36	15.69	2.00	2.00	0.00
700.00	8.00	163.88	698.70	-26.78	7.74	27.88	2.00	2.00	0.00
800.00	10.00	163.88	797.47	-41.81	12.08	43.52	2.00	2.00	0.00
900.00	12.00	163.88	895.62	-60.14	17.38	62.60	2.00	2.00	0.00
919.82	12.40	163.88	915.00	-64.17	18.54	66.79	2.00	2.00	0.00
8-5/8"									
1,000.00	14.00	163.88	993.06	-81.75	23.62	85.10	2.00	2.00	0.00
1,100.00	16.00	163.88	1,089.64	-106.61	30.81	110.98	2.00	2.00	0.00
1,200.00	18.00	163.88	1,185.27	-134.70	38.93	140.21	2.00	2.00	0.00
1,256.41	19.13	163.88	1,238.74	-151.95	43.91	158.17	2.00	2.00	0.00
1,300.00	19.13	163.88	1,279.93	-165.68	47.88	172.45	0.00	0.00	0.00
1,400.00	19.13	163.88	1,374.40	-197.16	56.97	205.22	0.00	0.00	0.00
1,500.00	19.13	163.88	1,468.88	-228.64	66.07	237.99	0.00	0.00	0.00
1,600.00	19.13	163.88	1,563.36	-260.12	75.17	270.76	0.00	0.00	0.00
1,700.00	19.13	163.88	1,657.84	-291.60	84.26	303.53	0.00	0.00	0.00
1,800.00	19.13	163.88	1,752.32	-323.08	93.36	336.30	0.00	0.00	0.00
1,900.00	19.13	163.88	1,846.80	-354.56	102.46	369.06	0.00	0.00	0.00
2,000.00	19.13	163.88	1,941.28	-386.04	111.56	401.83	0.00	0.00	0.00
2,100.00	19.13	163.88	2,035.76	-417.52	120.65	434.60	0.00	0.00	0.00
2,200.00	19.13	163.88	2,130.24	-449.00	129.75	467.37	0.00	0.00	0.00
2,300.00	19.13	163.88	2,224.71	-480.48	138.85	500.14	0.00	0.00	0.00
2,400.00	19.13	163.88	2,319.19	-511.96	147.94	532.90	0.00	0.00	0.00
2,500.00	19.13	163.88	2,413.67	-543.44	157.04	565.67	0.00	0.00	0.00
2,600.00	19.13	163.88	2,508.15	-574.92	166.14	598.44	0.00	0.00	0.00
2,700.00	19.13	163.88	2,602.63	-606.40	175.23	631.21	0.00	0.00	0.00
2,800.00	19.13	163.88	2,697.11	-637.88	184.33	663.98	0.00	0.00	0.00
2,900.00	19.13	163.88	2,791.59	-669.36	193.43	696.74	0.00	0.00	0.00
3,000.00	19.13	163.88	2,886.07	-700.84	202.53	729.51	0.00	0.00	0.00
3,100.00	19.13	163.88	2,980.55	-732.32	211.62	762.28	0.00	0.00	0.00
3,200.00	19.13	163.88	3,075.02	-763.80	220.72	795.05	0.00	0.00	0.00
3,300.00	19.13	163.88	3,169.50	-795.28	229.82	827.82	0.00	0.00	0.00
3,356.79	19.13	163.88	3,223.16	-813.15	234.98	846.43	0.00	0.00	0.00
3,400.00	18.37	163.88	3,264.07	-826.50	238.84	860.32	1.75	-1.75	0.00
3,500.00	16.62	163.88	3,359.44	-855.38	247.19	890.38	1.75	-1.75	0.00
3,600.00	14.87	163.88	3,455.69	-881.45	254.72	917.52	1.75	-1.75	0.00
3,700.00	13.12	163.88	3,552.71	-904.69	261.43	941.70	1.75	-1.75	0.00
3,800.00	11.37	163.88	3,650.43	-925.06	267.32	962.91	1.75	-1.75	0.00
3,900.00	9.62	163.88	3,748.76	-942.57	272.38	981.13	1.75	-1.75	0.00
4,000.00	7.87	163.88	3,847.59	-957.17	276.60	996.34	1.75	-1.75	0.00
4,100.00	6.12	163.88	3,946.84	-968.88	279.98	1,008.52	1.75	-1.75	0.00
4,200.00	4.37	163.88	4,046.42	-977.66	282.52	1,017.66	1.75	-1.75	0.00
4,277.74	3.01	163.88	4,124.00	-982.47	283.91	1,022.67	1.75	-1.75	0.00
PRKM TOP									
4,300.00	2.62	163.88	4,146.23	-983.52	284.22	1,023.76	1.75	-1.75	0.00
4,400.00	0.87	163.88	4,246.18	-986.45	285.06	1,026.81	1.75	-1.75	0.00
4,449.82	0.00	0.00	4,296.00	-986.81	285.17	1,027.19	1.75	-1.75	0.00
4,500.00	0.00	0.00	4,346.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
4,600.00	0.00	0.00	4,446.18	-986.81	285.17	1,027.19	0.00	0.00	0.00

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<b>Site:</b>	WELD_PEHR PAD	<b>North Reference:</b>	True
<b>Well:</b>	PEHR 13-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PEHR 13-1		
<b>Design:</b>	PEHR 13-1 (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,674.82	0.00	0.00	4,521.00	-986.81	285.17	1,027.19	0.00	0.00	0.00
<b>SX TOP</b>									
4,700.00	0.00	0.00	4,546.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
4,800.00	0.00	0.00	4,646.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
4,900.00	0.00	0.00	4,746.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,000.00	0.00	0.00	4,846.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,100.00	0.00	0.00	4,946.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,200.00	0.00	0.00	5,046.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,300.00	0.00	0.00	5,146.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,400.00	0.00	0.00	5,246.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,500.00	0.00	0.00	5,346.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,600.00	0.00	0.00	5,446.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,700.00	0.00	0.00	5,546.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,800.00	0.00	0.00	5,646.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
5,900.00	0.00	0.00	5,746.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,000.00	0.00	0.00	5,846.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,100.00	0.00	0.00	5,946.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,200.00	0.00	0.00	6,046.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,300.00	0.00	0.00	6,146.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,400.00	0.00	0.00	6,246.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,500.00	0.00	0.00	6,346.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,600.00	0.00	0.00	6,446.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,700.00	0.00	0.00	6,546.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,800.00	0.00	0.00	6,646.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
6,900.00	0.00	0.00	6,746.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,000.00	0.00	0.00	6,846.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,100.00	0.00	0.00	6,946.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,200.00	0.00	0.00	7,046.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,300.00	0.00	0.00	7,146.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,370.82	0.00	0.00	7,217.00	-986.81	285.17	1,027.19	0.00	0.00	0.00
<b>NI A TOP</b>									
7,400.00	0.00	0.00	7,246.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,500.00	0.00	0.00	7,346.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,600.00	0.00	0.00	7,446.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,689.82	0.00	0.00	7,536.00	-986.81	285.17	1,027.19	0.00	0.00	0.00
<b>CDL TOP</b>									
7,700.00	0.00	0.00	7,546.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,776.82	0.00	0.00	7,623.00	-986.81	285.17	1,027.19	0.00	0.00	0.00
<b>GH TOP</b>									
7,800.00	0.00	0.00	7,646.18	-986.81	285.17	1,027.19	0.00	0.00	0.00
7,849.82	0.00	0.00	7,696.00	-986.81	285.17	1,027.19	0.00	0.00	0.00
<b>PEHR 13-1 BHL</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PEHR 13-1 BHL	0.00	0.00	7,696.00	-986.81	285.17	1,270,532.36	3,182,769.11	40.074154	-104.846895
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	gl + rkb @ 4959.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	gl + rkb @ 4959.00ft
<b>Site:</b>	WELD_PEHR PAD	<b>North Reference:</b>	True
<b>Well:</b>	PEHR 13-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PEHR 13-1		
<b>Design:</b>	PEHR 13-1 (wp01)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
919.82	915.00	8-5/8"	8-5/8	11	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,277.74	4,124.00	PRKM TOP			
4,674.82	4,521.00	SX TOP			
7,370.82	7,217.00	NI A TOP			
7,689.82	7,536.00	CDL TOP			
7,776.82	7,623.00	GH TOP			